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Surgeons Opinions on Management of Normal Appendix during Laparoscopy for Right Iliac Fossa Pain

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ABSTRACT

Right iliac fossa (RIF) pain is a common presentation in surgical emergencies, often leading to the diagnosis of acute appendicitis. However, the management of a normal appendix encountered during laparoscopic exploration for RIF pain remains debated among surgeons, with implications for patient outcomes and healthcare resources. This study aimed to assess the opinions of surgeons regarding the management of a normal appendix during laparoscopic surgery for RIF pain of uncertain etiology. A cross-sectional survey was conducted among 150 surgeons in Benghazi, yielding a 65.33% response rate. The survey collected demographic data, management opinions, and factors influencing decision-making regarding the removal of a normal appendix during laparoscopic procedures. The results showed that of the 98 respondents, approximately 80% reported that they routinely remove a normal appendix during laparoscopic surgery, primarily to prevent future appendicitis and avoid patient confusion. While most surgeons explained the risks and benefits of this decision to their patients, opinions varied on whether the decision should be made collaboratively. Notably, only 2% reported complications related to the removal of a normal appendix. The findings indicate a significant lack of consensus among surgeons concerning the management of a normal appendix during laparoscopic procedures. While many opt for routine removal, a substantial minority advocate for a more selective approach. The variability in practices highlights the need for clear, evidence-based guidelines to standardize care and optimize patient outcomes. This study underscores the heterogeneity in the management of normal appendices during laparoscopic exploration for RIF pain. Further research is necessary to develop definitive recommendations that can guide surgeons in clinical practice.

KEYWORDS: Right Iliac Fossa Pain, Acute Appendicitis, Laparoscopic, Appendectomy, Normal Appendix.

1. INTRODUCTION

One of the most common presentations seen in surgical emergency departments is right iliac fossa (RIF) pain [1], which can arise from a variety of pathological causes originating in the gastrointestinal, urological, vascular, and gynecological systems. Among these, acute appendicitis is widely recognized as one of the most prevalent causes of acute abdominal pain requiring urgent surgical intervention.[2] The challenge in diagnosing acute appendicitis lies in the broad range of potential pathologies that can manifest with similar symptoms, as well as the variable nature of clinical presentations.

Surgeons often rely on a combination of patient history, physical examination findings, laboratory tests, especially inflammatory markers like white blood counts, ESR and C-reactive protein, and diagnostic imaging, including ultrasound scans and computerized tomography scans, to establish the diagnosis [3]. However, the similarities between appendicitis and other conditions can make it difficult to reach a definitive conclusion, especially in cases where the clinical picture is unclear.

The importance of timely appendectomy is well-established, as delayed treatment is associated with an increased risk of complications such as perforation and abscess formation [4]. Consequently, many surgeons have a low threshold for operating on patients presenting with RIF pain, even when the diagnosis of appendicitis is uncertain [5]. The advent of laparoscopic surgery has significantly impacted the diagnostic and management approaches for patients with RIF pain [3].

Unlike open appendectomy, where the surgeon is typically committed to removing the appendix once it is visualized, laparoscopic exploration may reveal a macroscopically normal appendix [6]. This scenario introduces a dilemma for the surgeon, as the management of a normal appendix during laparoscopy for RIF pain remains a subject of ongoing debate.

Some surgeons advocate for the routine removal of the appendix in such cases, citing the potential for microscopic pathology or future development of appendicitis [6]. Others, however, believe that the appendix should be left in situ, as unnecessary appendectomy may expose patients to additional surgical risks without clear benefit [6].

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This lack of consensus among surgeons regarding the management of a normal appendix during laparoscopy for RIF pain has important clinical implications, as it can affect patient outcomes and healthcare resource utilization. Understanding the opinions and decision-making processes of surgeons in this context can help guide clinical practice and inform future research in this area. This study highlights a lack of consensus among surgeons regarding the management of a normal appendix during laparoscopy for right iliac fossa pain.

2. METHODOLOGY

A cross-sectional survey study assessing the views of 150 surgeons in Benghazi via means of an online survey.

The survey collects the following information:

- Demographic and practice characteristics of the participants (e.g., years of experience, practice setting, annual volume of appendectomies).
- Opinions on the management of a normal appendix encountered during laparoscopy for RIF pain, including factors influencing the decision-making process.
- Factors that would influence the decision to remove or leave in situ a normal appendix, such as patient age, history of prior abdominal surgery, and presence of other intraoperative findings.
- Perceived risks and benefits associated with the different management strategies for a normal appendix.
- Preferred approach to obtaining informed consent from the patient regarding the management of a normal appendix.

Ethical Considerations:

The study protocol was reviewed and approved by the research ethical committee at the Libyan International Medical University with certificate reference number: MDC-2023-00105.

3. RESULTS

The study attained a response rate of 65.33%, with 98 participants responding out of the total sample size of 150.

All 98 participants answered all the questions in the questionnaire.

The majority of the surgeons (around 80%) reported that they do remove the normal appendix during laparoscopy for right iliac fossa pain of uncertain origin. The most common reasons cited were to prevent future appendicitis, address possible inflammation of the appendix mucosa, and avoid future confusion for the patient about having an appendix. Only 2.6% attributed their decision to remove the appendix to the presence of chronic inflammation (see Fig. 1).

Most surgeons (around 80%) reported that they sometimes or always explain the risks and benefits of removing a normal appendix to their patients before the surgery.

Only 2 surgeons reported complications from removing a normal appendix during this type of surgery (injury to adjacent bowel and collection).

The participants' responses to the question regarding whether removing a normal appendix during this type of surgery typically resolves the patient's right iliac fossa pain were as follows: 46% responded 'usually,' 14.3% said 'not usually,' while 36% indicated that it depends on the specific case.

40.8% of surgeons believe that the appendix should be removed in such cases, while 26.5% think it should not be removed. Meanwhile, 32.7% believe that the decision to remove the appendix in these cases should be made on a case-by-case basis.

There was no clear consensus on whether the decision to remove a normal appendix should be made by the patient, the surgeon, or collaboratively. Responses were split between these options.

Most surgeons (around 57%) said they would recommend removing a normal appendix during laparoscopy for right iliac fossa pain of uncertain origin, with some caveating this depending on the individual case (26.5).

Only 2 surgeons were aware of specific guidelines on this topic, such as from SAGES (Society of American Gastrointestinal and Endoscopic Surgeons).

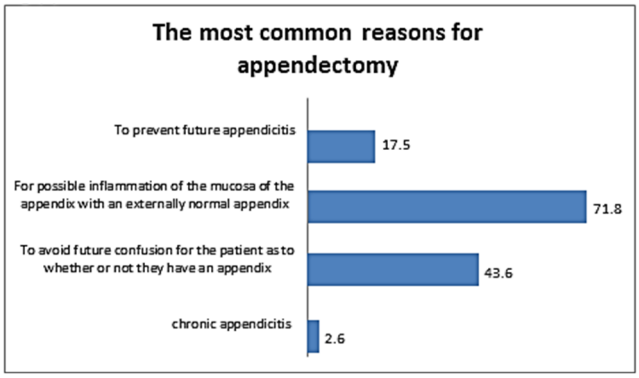


Figure 1. The responses for the most common reasons for appendectomy.

4. DISCUSSION

This survey provides insights into the diverse practices and perspectives of surgeons regarding the management of a normal appendix during laparoscopic exploration for right iliac fossa pain of uncertain etiology. The majority of respondents reported that they do routinely remove the appendix in such cases, citing reasons such as preventing future appendicitis, addressing potential microscopic inflammation, and avoiding future confusion for the patient.

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However, a sizable minority indicated that they take a more selective approach, removing the normal appendix only in certain circumstances.

The lack of consensus among the surveyed surgeons reflects the ongoing debate and uncertainty in the literature regarding the optimal management of the normal appendix in this clinical scenario. While some studies have suggested that prophylactic appendectomy can improve outcomes by addressing subclinical pathology [7, 8], other research has found that this practice does not reliably resolve symptoms and may expose patients to unnecessary surgical risks [9, 10].

The management of a normal appendix encountered during laparoscopy for right iliac fossa pain remains a point of contention in the literature. The primary argument for removing a visually normal appendix is the concern that endoluminal appendicitis, reported in 11–58% of seemingly normal appendices, may be missed intraoperatively [8, 11, 12].

This could lead to the need for a subsequent appendectomy. However, some argue that endoluminal appendicitis, confined to the mucosa, may not progress to suppurative appendicitis and does not necessarily cause localized pain [11].

Conversely, several studies have suggested that leaving a normal appendix in place is safe. One prospective study of 109 diagnostic laparoscopies found that only 1 out of 9 readmitted patients required an appendectomy when the appendix was left in place [13].

Another 10-year follow-up study of 63 patients randomized to appendectomy or diagnostic laparoscopy alone reported no subsequent development of appendicitis in the latter group [14].

Nonetheless, some data indicates increased complications from removing a normal appendix [8, 9].

Additionally, patient perceptions may play a role, as one study found that 61% of 176 patients who underwent laparoscopy for right iliac fossa pain were mistaken about whether their appendix had been removed [15].

This has led some to argue that removing the appendix regardless of appearance adds little morbidity [16].

However, the optimal management strategy remains unclear given the mixed evidence.

A key challenge appears to be the difficulty in accurately distinguishing a truly "normal" appendix pre-operatively, as macroscopic appearance may not always correlate with microscopic pathology. Additionally, predicting which patients are most likely to benefit from prophylactic appendectomy remains an area of uncertainty.

Interestingly, the survey responses indicate that the decision-making process is also variable, with some surgeons favoring a collaborative approach with the patient, while others feel the decision is best made by the surgeon alone. This highlights the importance of effective surgeon-patient communication and shared decision-making in this context.

The lack of clear, evidence-based guidelines on this topic was also noted by several respondents. The development of such guidelines, potentially drawing on expert consensus and incorporating patient preferences, could help standardize and improve the quality of care for patients presenting with right iliac fossa pain of unclear etiology.

5. CONCLUSION

In conclusion, this survey reveals significant heterogeneity in the management of the normal appendix during laparoscopic exploration for right iliac fossa pain.

Further research is warranted to establish more definitive, evidence-based recommendations to guide surgeons and optimize outcomes for this patient population.

It is also essential to encourage surgeons to engage in continuous medical education, urge them to stay updated with the latest research and scientific recommendations, and provide these resources to them.

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